

Remarks

1. Status of the Application

Claims 1, 2, 4-8, 10-14, 17, 18, 20-36, 47-53, 69-87, and 89-113 are currently pending. Claims 4-7, 17, 20, 24-27, 51, 53, 75, 85, 86, 93 and 95 are withdrawn from consideration, and Claims 1, 2, 8, 10-14, 18, 21-23, 28-36, 47-50, 52, 69-74, 76-84, 87, 89-92, 94 and 96-113 stand rejected. Claim 90 is amended.

2. Rejections under 35 U.S.C. § 112, second paragraph

Claims 13, 14, 34, 87, 90 and 91 are rejected for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant traverses these rejections and requests that they be withdrawn for the following reasons.

Claims 13, 14 and 87 are rejected as allegedly being indefinite for reciting the term “internal standard.”

Applicant traverses these rejections.

MPEP §2173.02 states:

“[d]efiniteness of claim language must be analyzed, not in a vacuum, but in light of: (A) [t]he content of the particular application disclosure; (B) [t]he teachings of the prior art; and (C) [t]he claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.”

The term “internal standard” is definite in view of the contents of the application. As explained from page 73, line 14, to page 74, line 29, of the application, individual amounts of compounds may be quantified from gas chromatograms using internal standards. Internal standards “may be added at known concentrations to a sample” (page 73, lines 16-17), or added to the carrier gas used for gas chromatography (page 74, lines 14-16). Examples of suitable internal standards are provided in Tables 1 and 2, on pages 2 and 3, respectively (page 73, line 16). Alternatively, the internal standard may be “present naturally” (page 19, line 31). For example, as explained on page 73, lines 21-25, methane, which is naturally present in air at a

relatively constant concentration of about 1.8 ppm, may be used as an internal standard for quantifying other air components. A representative example of how an internal standard (in this example, methane) may be used to quantify an analyte is presented on page 74, lines 1-6.

The meaning of the term "internal standard" is also definite in light of what was understood by those of ordinary skill in the art at the time the invention was made. For example, U.S. Patent No. 5,800,979 (issued September 1, 1998, copy enclosed) discusses the use of internal standards for quantifying folate co-enzymes in a body fluid using gas chromatography/mass spectrometry (see, for example, the Abstract). The term "internal standard" also appears in claims 1, 2, 5 and 6 of U.S. Pat No. 5,800,979. Also, internal standards are typically discussed in undergraduate analytical chemistry textbooks (see, for example, the enclosed pages from Daniel C. Harris, "Quantitative Chemical Analysis," W.H. Freeman and Co., New York, 1995).

For these reasons, the meaning of the term "internal standard" is definite in view of the application and what was known by one possessing an ordinary level of skill in the pertinent art at the time the invention was made.

Therefore, the rejections of claims 13, 14 and 87 under 35 U.S.C. §112, second paragraph should be withdrawn, and applicant requests such action.

Claim 34 is rejected as allegedly being indefinite for reciting the term "comprehensive."

Applicant traverses this rejection.

The term "comprehensive" should not be analyzed in isolation, but rather as used in the term "comprehensive chromatography." Comprehensive chromatography is definite in light of the application. As explained on page 41, lines 14-16, of the application, comprehensive chromatography is a method "in which successive portions of the sample fluid passing through a first column are directed as refocused pulses into a second column."

The term "comprehensive chromatography" is also definite in view of what would have been understood by one of ordinary skill in the art at the time the invention was made. The term was in use by those of ordinary skill in the pertinent art as early as 1991. For example, Liu and Philips (Liu and Phillips, "Comprehensive Two-dimensional Gas Chromatography using an On-column Thermal Modulator Interface," *Journal of Chromatographic Science*, 29: 227-231, 1991, copy enclosed) states:

“A different and significantly more powerful approach is to make the second column fast enough to generate at least one complete chromatogram as each single peak elutes from the first column. A complete set of secondary chromatograms can then be generated in real time as the primary chromatogram develops. This approach is fundamentally different from heart cutting in that the entire sample, rather than only portions of it [as in other multidimensional chromatographic techniques (see discussion on page 227, r.h.c.)], is subjected to the two dimensions of chromatographic separation. Instead of isolating a single substance from a complex mixture, this technique separates substances across a two-dimensional plane. Because all substances are subjected to the two-dimensional separation, the technique is termed comprehensive” (See, pages 227-228, emphasis added).

Therefore, the term “comprehensive” is definite in light of the application and the understanding of one of ordinary skill in the pertinent art.

The rejection of claim 34 under 35 U.S.C. §112, second paragraph should be withdrawn, and applicant requests such action.

Claim 90 is rejected as allegedly indefinite for reciting “where the pneumatically focused sample is subsequently cryogenically liquefied.”

Applicant traverses this rejection.

The Office action posits that since “the sample is liquid because of pneumatic focusing, what is further liquefied?”

Nowhere in the application is it stated that a pneumatically focused sample is necessarily a liquefied sample. On page 10, lines 8-16, the application states:

“Pneumatic Focusing can be carried out with a sample originating as a gas, in which case the sample may be focused (pressurized) in a sample cell or concurrently as it is introduced to a chromatographic column or spectrometric cell. Pneumatic Focusing may also be carried out with a liquid sample vaporized at an effective vaporization temperature upon introduction into a gas chromatograph or heated spectrometric cell. In either case high pressure in the

sampling or analytical environment will serve to focus (concentrate) the sample for better detectability of the target analytes. One goal of Pneumatic Focusing is to allow introduction of large quantities of analytes into analytical devices. Another goal is the removal of undesired condensable vapors, such as water vapor.”

Thus, as is clearly explained in the application, pneumatic focusing may or may not liquefy compounds in a gaseous sample, and in cases where compounds are liquefied by pneumatic focusing, not all of the sample is necessarily liquefied. This is reinforced on page 11, lines 7-9, where the application states that “[c]ondensable vapors (such as water vapor which may interfere with an analysis) may be removed in a prefocusing prechamber if desired before the sample is introduced to the light absorption chamber or chromatographic column.” Example 9, from page 89, line 31 to page 91, line 5, also provides an example where a pneumatically focused sample is separated into a liquefied (water) fraction and a gas sample that, while being pneumatically focused, is still a gas. As explained in the application, the pneumatic focusing process can leave vapors that may be subsequently cryogenically liquefied. For example, on page 8, lines 27-30, the application states “[t]he method does not require cryofocusing, or sorbent-trap focusing, as with prior methods, although it should be appreciated that the present invention can be practiced in combination with cryofocusing and/or sorbent-trap focusing of analytes in laboratory or field use.”

Claim 90 is therefore not confusing and is definite when read in view of the contents of the application.

Although not believed to be necessary, claim 90 also is hereby amended to clarify that the pneumatically focused sample is a gas prior to cryogenic liquefaction. This amendment is not intended to alter the scope of claim 90.

Applicant requests that the rejection of claim 90 under 35 U.S.C. §112, second paragraph, be withdrawn.

Claim 91 is rejected as allegedly indefinite because it was not “understood,” presumably because it recites the term “eddy correlation measurement.”

Applicant traverses this rejection.

Since no specific reason is given as to why the claim is not understood, the Office action does not present a *prima facie* case of indefiniteness.

Regardless, as stated above, the definiteness of a claim must be examined in light of what one of ordinary skill in the art would understand. The term "eddy correlation measurement" refers to a technique commonly used by atmospheric scientists, ecologists and meteorologists to quantify the flux of gases into the atmosphere. Enclosed are copies of pages from a book published in 1995 that describes eddy correlation measurements as "the most straightforward and basic approach for flux measurement" (see, page 139 of "Biogenic Trace Gases: Measuring Emissions from Soil and Water," Matson and Harriss, eds., Blackwell Science, 1995). On page 139, this book states that "a wide variety of sensor technologies have been utilized or proposed for eddy flux measurements," including trace gas sensors such as flame ionization detectors. Claim 91 is directed to the use of the method of claim 1, which includes pneumatic focusing and gas chromatographic analysis of a gas sample, for calculating a flux by the eddy correlation technique.

The rejection of claim 91 under 35 U.S.C. §112, second paragraph, should be withdrawn, both because a *prima facie* case of indefiniteness is not provided by the Office action and because the term "eddy correlation" is definite in view of what one of ordinary skill in the art would have understood at the time the invention was made. Applicant therefore asks that the rejection of claim 91 be withdrawn.

3. Rejections under 35 U.S.C. §102(b)

Claims 1, 2, 8, 10-12, 18, 32, 35-36, 47, 50, 52, 72-74, 82 and 92 stand rejected as allegedly anticipated by Laugharn et al. (PCT Publication WO 99/22868).

Applicant traverses these rejections and asks that the rejections be withdrawn for the reasons that follow.

Independent **claim 1** is directed to a method for analyzing a gas sample where the gas sample (which can be a gas or a sample that can be converted to a gas) is compressed to a smaller volume by an increase in pressure to provide a pneumatically focused gas sample that is analyzed by gas chromatography.

As stated in the present application on page 10, lines 3-5, "[p]neumatic [f]ocusing generally means increasing the pressure of a gaseous sample from a starting pressure (e.g.

atmospheric pressure) to a pressure of from about 100 psi to about 15,000 psi.” As explained in the present application on page 9, lines 3-4, “[p]neumatic [f]ocusing is advantageous for concentrating [gas] samples before injection into the chromatographic column.” Further, at page 10, lines 13-15, the application explains that “high pressure in the sampling or analytical environment will serve to focus (concentrate) the sample for better detectability of the target analytes,” and “allow introduction of large quantities of analytes into analytical devices.”

A claim is anticipated by a prior art reference only if every element of the claim is taught by the reference. (MPEP §2131).

Laugharn et al. does not anticipate claim 1 because it does not teach, or even suggest, at least the features of a gas sample and pneumatic focusing (concentration by a reduction in volume) to provide a pneumatically focused gas sample.

In contrast to the method of claim 1, Laugharn et al. teaches a method for cell lysis (see Abstract), and cells are clearly not a gas sample. At page 19, lines 12-20 Laugharn et al. also teaches in its description of the general procedure it discloses that, “[i]n general, a solution containing a biomolecule to be purified is introduced onto a solid phase at low pressure.” Continuing, Laugharn et al. explains that [t]he solid phase, to which the biomolecule present in the solution should now be bound, is washed with a buffered second solution, in which the desired biomolecule will remain bound to the solid phase at elevated pressure, whereas the undesirable contaminants (e.g., proteins and lipids) will be removed from the solid phase.” Laugharn et al. describes a variety of liquid and cellular samples, but it does not teach or suggest a gas sample. Laugharn et al. also does not teach or suggest compression of a gas sample to a smaller volume to provide a pneumatically focused gas sample. Rather, Laugharn et al. teaches that “[t]he invention is based on the discovery that hyberbaric, hydrostatic pressure reversibly alters the partitioning of biomolecules between certain adsorbed [i.e. solid] and solvated [i.e. liquid] phases relative to partitioning at ambient pressure” (page 2, lines 11-15). Nowhere does Laugharn et al. teach or suggest that an increase in pressure may be used to compress a gas sample to a smaller volume to provide a concentrated, pneumatically focused gas sample for analysis.

Thus, claim 1 is not anticipated by Laugharn et al. because Laugharn et al. does not teach each and every feature of claim 1. The Office action does not present a *prima facie* case of

anticipation for claim 1. Therefore, the rejection of claim 1 as anticipated by Laugharn et al. should be withdrawn, and applicant respectfully requests such action.

Dependent claims 2, 8, 10-12, 18, 32, 35-36, 47, 50, 52, 72-74, 82 and 92, which all depend from claim 1, are not anticipated by Laugharn et al. for at least the reason that Laugharn et al. does not anticipate claim 1. Furthermore, each of these claims consists of a unique combination of elements not taught or suggested by Laugharn et al. For example, Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous pneumatically focusing concurrently with or prior to reaching a separatory column (claim 2). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous increasing of pressure to a pressure of from about 100 psi to about 15,000 psi to pneumatically focus a gas sample (claim 8). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous increasing of pressure to a pressure of from about 200 psi to about 2,000 psi to pneumatically focus a gas sample (claim 10). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous increasing of pressure to a pressure of from about 300 psi to about 700 psi to pneumatically focus a gas sample (claim 11). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous use of a gas selected from the group consisting of hydrogen, helium, nitrogen, argon, carbon dioxide, air, or mixtures thereof to pneumatically focus a gas sample (claim 12). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous use of a carrier gas or a compressor at a first pressure and rapidly decreasing or increasing pressure between a first and second pressure to pneumatically focus a gas sample (claim 18). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous injection of a pneumatically focused sample in parallel or serially onto plural parallel or serial separatory columns (claim 32). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous automation or computer control of a method including pneumatically focusing a gas sample (claim 35-36). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous feeding of portions of a pneumatically focused sample to separate columns upstream of separate, plural detectors (claim 47). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous feeding of a pneumatically focused sample to plural separatory columns (claim 50). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous feeding of a

pneumatically focused sample to plural separatory columns connected in parallel (claim 52). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous providing of a pneumatically focused sample to a column within a period of less than one minute (claim 72). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous providing of a pneumatically focused sample to a column within a period of less than one minute, one second, or one millisecond (claims 72-4). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous condensing of water vapor in a gaseous sample by pneumatic focusing (claim 82). Laugharn et al., which says nothing about pneumatic focusing, does not show the advantageous increasing of pressure to a pressure of from about 300 psi to about 1,500 psi to pneumatically focus a gas sample (claim 92). Applicant requests that the rejections of claims 2, 8, 10-12, 18, 32, 35-36, 47, 50, 52, 72-74, 82 and 92 under 35 U.S.C. §102(b) also be withdrawn.

4. Rejections under 35 U.S.C. §103(a)

Claims 21-23, 28-31, 33, 48-49, 69-71, 79-81, 83-84, 89, 94 and 96-113 were rejected for allegedly being obvious in view of Laugharn et al. Applicant traverses these rejections and asks that the rejections be withdrawn for the reasons that follow.

A *prima facie* case of obviousness requires that the prior art reference(s) teach or suggest all the claim limitations (See MPEP § 2143).

Since, as discussed above, Laugharn fails to teach or suggest the features of claim 1, from which all of claims 21-23, 28-31, 33, 48-49, 69-71, 79-81, 83-84, 89, 94 and 96-104 depend, it cannot fairly teach or suggest all the features of claims 21-23, 28-31, 33, 48-49, 69-71, 79-81, 83-84, 89, 94 and 96-104. Furthermore, these claims are not obvious even in view of Laugharn et al. in combination with features that are alleged to have been obvious to one of ordinary skill in the art at the time the invention was made. Therefore, a *prima facie* case of obviousness is not established by the Office action, and applicant respectfully requests withdrawal of the rejections of claims 21-23, 28-31, 33, 48-49, 69-71, 79-81, 83-84, 89, 94 and 96-104.

Likewise, a *prima facie* case of obviousness for claims 105-113 is not set forth in the Office action. Claim 105 is directed to a method for analyzing VOCs by compressing a gas sample comprising VOCs in a sample collection tube by increasing pressure applied to the sample using a carrier-pneumatic focusing gas to provide a pneumatically focused sample, and

separating VOC components of the pneumatically focused sample on a gas chromatographic column. Laugharn does not teach or suggest at least the features of VOCs, a gas sample, a sample collection tube, a pneumatically focused sample, or separating VOCs. Thus, since Laugharn et al. does not teach or suggest each and every feature of claim 105, a *prima facie* case of obviousness is not made by the Office action and the rejection of claim 105 under 35 U.S.C. §103(a) should be withdrawn. Applicant respectfully requests such action.

Claims 106-113, which depend from claim 105, are also not obvious in view of Laugharn for at least the reasons set forth with respect to claim 105. Furthermore, these claims are not obvious even in view of Laugharn et al. in combination with features that are alleged to have been obvious to one of ordinary skill in the art at the time the invention was made. Applicant submits that the rejections of claims 106-113 should be withdrawn, and requests such action.

The Office action alleges that **claims 21-23** are obvious in view of Laugharn et al. because "it would have been obvious ... to heat or cool the column as is customarily done in temperature programming and to use various carrier gases for different effects." Applicant disagrees and is aware of no prior art that teaches or suggests temperature programming and use of different carrier gases in combination with pneumatic focusing of a gas sample. Laugharn et al. certainly does not teach or suggest a gas sample and pneumatic focusing thereof. Therefore, Laugharn et al. cannot teach or suggest a method of pneumatic focusing a gas sample in combination with temperature programming or differing carrier gases. Applicant agrees that Laugharn et al. does not teach or suggest the steps of claims 21-23.

The Office action alleges that **claim 28** is obvious in view of Laugharn et al. because "it is obvious that Laugharn can be operated continuously or in batch mode." Applicant disagrees. First, this statement is irrelevant as Laugharn does not teach or suggest at least the features of a gas sample and pneumatic focusing thereof. Furthermore, it is unclear that the method of Laugharn et al. may be operated in a continuous mode, and no support, nor reference to such teachings in Laugharn et al., is provided in the Office action.

The Office alleges that **claim 29** is obvious in view of Laugharn et al. because "averaging is notoriously old and well known in the art to more accurately smooth out random errors." While averaging may be used in other contexts, it is irrelevant because Laugharn does not teach or suggest at least the features of a gas sample and pneumatic focusing in combination with averaging.

The Office action alleges that **claim 30** is obvious in view of Laugharn et al. because “these signal processing techniques are notoriously old and well known in the art.” Applicant disagrees, and is aware of no prior art that teaches the feature of an averaging method “where peak locations determined from the average are used to integrate peak areas in individual chromatograms contributing to the average,” either alone or in combination with a method for analyzing a gas sample that includes pneumatic focusing.

The Office action alleges that **claim 31** is obvious in view of Laugharn et al. because “it would have been obvious ...to employ any of the [recited] detectors depending upon the sought separation.” Applicant disagrees and maintains that the statement is irrelevant because Laugharn et al. does not teach or suggest at least the features of a gas sample or pneumatic focusing thereof. Applicant agrees that Laugharn does not teach specific detectors such as those recited in claim 31.

The Office action alleges that **claim 33** is obvious in view of Laugharn et al. because “it is obvious because peaks are resolved in time and by weight that the analysis is 2-dimensional.” Applicant disagrees. It is unclear what peaks are being referred to by this statement, and although it is presumably something shown in Laugharn et al., no adequate reference is made to that portion of Laugharn et al. which purportedly teaches 2-dimensional analysis. Furthermore, 2-dimensional chromatography is discussed on page 41, lines 14-17 of the present application where it states “[t]wo-dimensional and comprehensive GC, in which successive portions of the sample fluid passing through a first column are directed as refocused pulses into a second column gives significantly higher sample resolution and separation than a 1-dimensional GC.” Laugharn et al. does not teach or suggest any method where successive portions from one column are directed into a second column.

The Office action alleges that **claims 48-49, 94 and 96** are obvious in view of Laugharn et al. because “serial and/or parallel detectors are notoriously old and well known in the art.” Applicant disagrees. Again, this is irrelevant because Laugharn et al. does not teach or suggest a combination of a gas sample, pneumatic focusing of the sample and serial and/or parallel detectors even in combination with what is known in the art. Furthermore, page 18, lines 5-22 of Laugharn et al., used in support of the allegation, states nothing relevant.

The Office action alleges that **claim 69** is obvious in view of Laugharn et al. by taking “official notice that [pre-stored gaseous samples] is standard sample gathering from remote

sites.” Applicant disagrees. Even if this fact is assumed to be well-known, it is irrelevant because Laugharn et al. does not teach or suggest a combination of a gas sample, pneumatic focusing of the sample and pre-stored gaseous samples. Applicant does agree that Laugharn et al. does not teach pre-stored gaseous samples.

The Office action alleges that **claim 70** is obvious in view of Laugharn et al. because “it is obvious that using air necessarily includes air toxics.” Applicant disagrees with this unsupported assertion and requests that any subsequent rejection that includes this assertion be accompanied by adequate evidence in its support. Even if the assertion were true, Laugharn et al. does not fairly teach or suggest a combination of a gas sample, pneumatic focusing and a sample including air toxics as recited by claim 70.

The Office action alleges that **claim 71** is obvious in view of Laugharn et al. because “[i]t would have been obvious ... to perform fence-line monitoring for a site comprising pollution source(s).” Applicant disagrees. The assertion that fence-line monitoring is obvious is irrelevant because Laugharn et al. does not teach or suggest at least the features of a gas sample and pneumatic focusing of the gas sample. Thus, Laugharn et al. cannot teach all of the features of claim 71, even in combination with fence-line monitoring. Applicant agrees that Laugharn et al. does not teach fence-line monitoring.

The Office action alleges that **claims 79-81** are obvious in view of Laugharn et al. because “it would have been obvious ... to filter or freeze-out materials prior to introduction into a chromatograph to prevent contamination especially from water.” Applicant disagrees with this unsupported assertion and requests that any subsequent Office action reciting this allegation provide adequate evidence in its support. Applicant does agree with the statement in the Office action that “Laugharn [et al.] fails to remove materials from the sample.”

Claim 79 recites “removing materials from the gaseous sample prior to pneumatically focusing the sample.” Since Laugharn et al. does not teach or suggest a gaseous sample it cannot teach removing materials from the gaseous sample, and because Laugharn et al. does not teach or suggest pneumatic focusing it cannot teach removing materials prior to pneumatically focusing the sample.

Claim 80 recites “materials removed from the sample are selected from the group consisting of water vapor, aerosols, ozone, NO₂, and combinations thereof.” Laugharn et al.

does not teach or suggest any of these materials, and it also does not teach or suggest a gas sample and pneumatically focusing the sample.

Claim 81 recites "materials are removed by filtering, absorption, vortexing and combinations thereof." Laugharn et al. does not teach removing materials in any of these specific ways, and it also does not teach or suggest a gas sample and pneumatically focusing the sample.

The Office action alleges that **claims 97-104** are obvious in view of Laugharn et al. because "Laugharn teaches capillary chromatography in which it is obvious to use packed columns as these are common in the art." Applicant disagrees with the unsupported assertions made in this statement that capillary chromatography necessarily suggests a packed capillary column and that these are common in the art. Nonetheless, the allegation is irrelevant since Laugharn et al. does not teach or suggest a gas sample or pneumatic focusing. Thus, claims 97-104 are not obvious in view of Laugharn et al. in combination with the statement made in the Office action, even if the statement were supportable.

The Office action alleges that **claims 83-84 and 89** are obvious in view of Laugharn et al. because "it is obvious to remove the water vapor and study the residue because water vapor is harmful to many instruments and only the residue is of interest." Applicant disagrees. The statement is again irrelevant since Laugharn et al. fails to teach a gas sample and pneumatic focusing thereof. Therefore, claims 83-84 and 89 are not obvious in view of a combination of Laugharn et al. and the statement in the Office action (assuming it is supportable).

The Office action alleges that **claims 105-107** are obvious in view of Laugharn et al. because "it would have been obvious ... to apply Laugharn's method to VOCs because the method is completely general and can be applied to almost any sample." Applicant disagrees with this unsupported assertion and requests that adequate evidence be provided that 1) Laugharn's method is completely general and 2) Laugharn's method can be applied to almost any sample. Regardless, claims 105-107 are not obvious in view of Laugharn et al. and the unsupported statement quoted above because Laugharn et al. does not teach or suggest at least VOCs, a gas sample, a sample collection tube and pneumatic focusing.

The Office action alleges that **claims 108-109** are obvious in view of Laugharn et al. because "Laugharn teaches capillary chromatography in which it is obvious to use packed columns with a FID detector as these are common in the art." Applicant disagrees. Furthermore,

even if the statement is supportable, it is irrelevant since Laugharn et al. does not teach or suggest at least the features of a gas sample, VOCs, a sample collection tube and pneumatic focusing.

The Office action alleges that **claims 110-110** are obvious in view of Laugharn et al. because "it is obvious to automate the analysis using a computer controller." Applicant disagrees. Furthermore, even if the statement is supportable, it is irrelevant since Laugharn et al. does not teach or suggest at least the features of a gas sample, VOCs, a sample collection tube and pneumatic focusing.

The Office action alleges that **claims 112-113** are obvious in view of Laugharn et al. because "it would have been obvious ...to use valves to control flow and to place the valves in the most appropriate locations." Applicant disagrees and considers this statement to be not only unsupported and overly broad but an application of an improper "obvious to try" rationale [see, MPEP §2145 (X)(B)]. Regardless, the statement is also irrelevant since even the combination of the statement and Laugharn et al. fails to teach at least the features of a gas sample, VOCs, a sample collection tube and pneumatic focusing.

Claims 76 and 78 were rejected under 35 U.S.C. §103 as being unpatentable over Laugharn et al. as applied to claim 1 in view of Bushman.

Applicant traverses these rejections and requests that they be withdrawn.

Since Laugharn et al. does not teach or suggest at least the features of a gas sample and pneumatic focusing thereof, the combination of Laugharn et al. and Bushman cannot teach all of the features of these claims. A *prima facie* case of obviousness is not established by the Office action and the rejections should be withdrawn. Applicant respectfully requests withdrawal of the rejections of claims 76 and 78.

Claim 77 was rejected under 35 U.S.C. §103 as being unpatentable over Laugharn et al. as applied to claim 1 in view of Shair.

Applicant respectfully requests withdrawal of the rejection of claim 77.

Since Laugharn et al. does not teach or suggest at least the features of a gas sample and pneumatic focusing thereof, the combination of Laugharn et al. and Shair does teach all of the features of this claim. A *prima facie* case of obviousness is not established by the Office action and the rejection should be withdrawn.

With respect to unapplied art cited in the Office action, applicant submits that no combination thereof anticipates the pending claims or renders them obvious.

4. Conclusion

All the pending claims are in condition for allowance. Applicant therefore requests issuance of a Notice of Allowance.

Respectfully submitted,

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